CHAPTER III

METHOD OF RESEARCH

A. Research Design

This study utilized an explanatory correlation research design to determine "cause and effect" connection degree that X variable influences Y variable between students' self regulation and their reading comprehension. According to Anderson and Arsenault (2005, p. 118), correlation research is one way of describing in quantitative terms the degree to which the variables are related. This research consisted of two variables. The first was students' self regulation as the independent variable (X) and the second was reading comprehension as the dependent variable (Y)

B. The Location and the Time of the Research

The research was conducted at the Tenth grade students of SMA Negeri 1 Kampar in March 2019

C. The Subject and the Object of the Research

The subject of this research was the Tenth grade students of SMA Negeri 1 Kampar and the object is to analyze the correlation between student's self regulation and their reading comprehension at the Tenth grade students of SMA Negeri 1 Kampar

D. Population and Sample

Syafi'i (2015) said that population of the research refers to total number of subjects from the data sources. Meanwhile, sample refered to the subject which was chosen and determined as the sources of data

1. The population

The Population of this Research was the Tenth grade students of SMA 1 Negeri Kampar. There are nine classes; those were X MIPA 1, X MIA 2, X MIPA 3, X MIPA 4, X MIPA 5, X SOS 1, X SOS 2, X SOS 3, X SOS 4, , which consisted of 316 students. Thus, the total number of population was 316. The population of this research was heterogeneous base on their subject (science and social class) and their ability. Students can be seen as follows:

Table III.1

The Population of the Tenth grade Student of SMA Negeri 1 Kampar

No	Class	Number of Students	Male	Female
1	X MIA 1	36	14	22
2	X MIA 2	35	11	24
3	X MIA 3	36	13	23
4	X MIA 4	36	14	22
5	X MIPA 5	36	13	23
6	X SOS 1	34	18	26
7	X SOS 2	34	18	26
8	X SOS 3	34	14	20
9	X SOS 4	35	16	19
TOTAL		**316**	**127**	**189**

2. Sample

Sample was some of the populations that have the same characteristics as the population. According to Arikunto (2006), if the subject is less than 100 people should be taken altogether, if the subject is large or more than 100 people can be taken 10-15% or 20-25% or more.

In this research, the researcher used simple random sampling. Gay (2000, p.134) A simple random sample is a subset of a statistical population in which each member of the subset has an equal probability of being chosen. A simple random sample is meant to be an unbiased representation of a group. There are natural science and social science students group. In SMA Negeri 1 Kampar, the total population was 316 students at the tenth grade student. The sample taken 10% of the population. Thus, the sample total was 10% x 316 students = 32students

Table III. 2
Sample of the Research

No	Classes	Total	Percent	Sample
1.	X MIA 1	36	10%	4
2.	X MIA 2	35	10%	4
3.	X MIA 3	36	10%	4
4.	X MIA 4	36	10%	4
5.	X MIPA 5	36	10%	4
6	X SOS 1	34	10%	3
7	X SOS 2	34	10%	3
8	X SOS 3	34	10%	3

9	X SOS 4	35	10%	4
Total		316	10%	**32**

Based on the table above, the researcher took the sample for natural science was 20 students, and for social science was 12 students. Thus the total sample of this research is 32 students. In this research, the researcher took the students using lottery. The researcher made the paper that contain the sign, and then selected them randomly. The students got paper contain sign, automatically that students were the sample in this research.

E. Technique of Data Collection

To collect the data, the researcher used two kinds of instruments for this research. The instruments as follows:

1. **Test**

   Test is a method of measuring a person's ability, knowledge, or performance in a given domain. The various data was derived from a test such as ability, proficiency, comprehension or performance. Test was used to collect the data of dependent variable (students' reading comprehension). Since there were many kinds of text that are available in the thenth grade, the researcher chose descriptive text to be in this test. To investigate the students' reading comprehension especially in descriptive text, this research used multiple choice test which consisted of 20 items. Nuttal (as cited in Winanti, 2016) stated reading comprehension has five aspects:

a. The students are able to determine main idea.

b. The students are able to identify supporting details.

c. The students are able to make the inference.

d. The students are able to identify the reference

e. The students are able to understand the vocabulary.

Table III.3

Blue Print of Students' Reading Comprehension

No.	Indicators of Students' Reading Comprehension	Number of Item
1	Main Idea	1, 2, 8, 14
2	Supporting Details	3, 4, 9, 15
3	Inference	5, 10, 16, 17
4	Reference	6, 11, 12, 18
5	Vocabulary	7, 13, 19, 20

Table III. 4
Score of Category

No	Score	Category
1.	81-100	Very good
2.	61-80	Good
3.	41-60	Mediocre
4.	21-40	Bad
5.	1-20	Poor

To find out the students's score of test used formula:

$$\text{Students's score} = \frac{total\ correct\ answer}{total\ number\ of\ question} \times 100$$

2. Questionnaire

Questionnaire is a research instrument consisting of a series of questions to be answered by the respondents.

In order to gather the data about students' motivation in learning Reading, a set of questionnaire was used. The writer used Likert attitude scale which will be adapted before. A Likert scale asked participants to respond to a series of statements by indicating whether they strongly Agree (SA), Agree (A), uncertain (U), disagree (D), Strongly Disagree (SD).

There were two kinds of the statement in that questionnaire. They were *favorable* and *unfavorable*. According to Azwar *favorable* means the answer which contains a positive value towards the question object. On the contrast, *unfavorable* means the answer which contains a negative value towards the question object.

Furthermore, based on the adaptation from Gay's book, the point value of the answer can be seen at the table bellow

Table III.5

Point Value of the Answer

Favorable	**Unfavorable**
Score 5 for Strongly Agree (SA)	Score 1 for Strongly Agree (SA)
Score 4 for Agree (A)	Score 2 for Agree (A)
Score 3 for Uncertain	Score 3 for Uncertain

Score 2 for Disagree (D)	Score 4 for Disagree (D)
Score 1 for strongly disagree	Score 5 for strongly disagree

The Self Regulation Questionnaire, developed by Brown (as cited in Pichardo, 2018, p.2-3), evaluates subjects' self-regulation of behavior, understood as the ability to plan and manage their own behavior in a flexible way, according to the desired outcomes. Although the questionnaire has been adapted to educational contexts, it was initially designed within the field of addictive behaviors. The authors, using squared multiple correlation coefficients, carried out an initial design for 28 items (14 reverse) that constituted 7 scales. Every scale consisted of 4 items. The scale are as follows :

1. Informational input, which refers to the ability of a person to obtain information from their environment on their current state;
2. Self-evaluation, for which the information is used in comparison with personal goals, rules and expectations;
3. Instigation to change, wherein the person perceives whether or not there are discrepancies between their current state and their desired state;
4. Search for alternatives, with the aim of reducing discrepancies;
5. Planning for change, referring to the strategies or actions for carrying out the process of change;
6. Implementation of strategies for change; and

7. Goal attainment evaluation plan. The instrument, in its English version, has mainly been used with university students

Blue Print of Students' Self Regulation

No.	Indicators of Students' Self Regulation	Number of Item
1	Information Input	1, 8, 15, 22
2	Self Evaluation	2, 9, 16, 23
3	Instigation to Change	3, 10, 17, 24
4	Searching for Alternatives	4, 11, 18, 25
5	Planning for Change	5, 12, 19, 26
6	Implementation the Change	6, 13, 20, 27
7	Goal Evaluation	7, 14, 21, 28

F. Validity and Reability of The Intrumets

1. Validity and Reability of the Test

a. Test Validity

Gay (2012, p.160) mentioned there are four kinds of validity. They are content validity, criterion-related validity, construct validity, and consequential validity. In this research, the researcher used content validity. Brown (2003, p.22) stated that content validity is if a test actually samples the subject matter about which conclusions are to be drawn, and if it requires the test taker to perform the behavior that is being measured.

To analyze the validity of variable Y was reading comprehension, the researcher used Microsoft excel. Based on Qonita (2017), in try out data validity, the respondent could be taken half of the sample. The item is valid if the r- item > r- table. As it mentioned in earlier, there were 32 students as the sample which meant half of them was 16 students. The number of r- table for 16 respondent is 0,4973.

Based on the try out result of the instrument validity to the 20 items, it showed that all the items were valid. It meant that there were 20 items that could be used in this research. The following table is the result of the instrument validity.

Table III. 6

The Analysis of Reading Comprehension Test Validity after try out

Item Number	r-item	r-table	Result	Item Number	r-item	r-table	Result
1	0.61	0.50	Valid	12	0.51	0.50	Valid
2	0.56	0.50	Valid	13	0.61	0.50	Valid
3	0.53	0.50	Valid	14	0.53	0.50	Valid
4	0.53	0.50	Valid	15	0.61	0.50	Valid
5	0.58	0.50	Valid	16	0.63	0.50	Valid
6	0.61	0.50	Valid	17	0.53	0.50	Valid
7	0.55	0.50	Valid	18	0.53	0.50	Valid
8	0.60	0.50	Valid	19	0.61	0.50	Valid
9	0.74	0.50	Valid	20	0.65	0.50	Valid
10	0.53	0.50	Valid				
11	0.60	0.50	Valid				

From the table above, the test items were valid. Because of the items were valid, the researcher used the test to be examined to the sample of the research

b. Reliability of the Test

Reliability is to measure the instrument that is used to collect the data. To know whether the test is reliable or not, the researcher calculated the data obtained by using IBM SPSS Statistics 21 program. The test reliability can be seen as follows:

Table III.7

Case Processing Summary

		N	%
Cases	Valid	16	100,0
	Excluded[a]	0	,0
	Total	16	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,748	20

2. Validity and Reliability of the Questionnaire

a. Validity of the Questionnaire

Gay (2012, p.160) mentioned four kinds of validity. They are content validity, criterion-related validity, construct validity, and consequential validity. In this research, the researcher used construct validity to know the validity of questionnaire. According to Gay (2012, p.163), construct validity is the validity that determined the concept of instrument being measured.

To analyze the validity of variable X self regulation, the researcher used Microsoft excel. Based on Qonita (2017), in try out data validity, the respondent could be taken half of the sample. The item is valid if the r- item > r- table. As it mentioned in earlier, there were 32 students as the sample which meant half of them was 16 students. The number of r- table for 16 respondent is 0,4973.

Based on the try out result of the instrument validity to the 28 items, it showed that all the items were valid. It means that there were 28 items that could be used in this research. The following table was the result of the instrument validity.

Table III. 8

The Analysis of Self Regulation Test Validity

Item Number	r-item	r-table	Result	Item Number	r-item	r-table	result
1	0,58	0.50	Valid	15	0,53	0.50	Valid
2	0,61	0.50	Valid	16	0,51	0.50	Valid

3	0,54	0.50	Valid	17	0,56	0.50	Valid
4	0,78	0.50	Valid	18	0,53	0.50	Valid
5	0,54	0.50	Valid	19	0,58	0.50	Valid
6	0,72	0.50	Valid	20	0,56	0.50	Valid
7	0,59	0.50	Valid	21	0,53	0.50	Valid
8	0,65	0.50	Valid	22	0,54	0.50	Valid
9	0,66	0.50	Valid	23	0,62	0.50	Valid
10	0,51	0.50	Valid	24	0,73	0.50	Valid
11	0,71	0.50	Valid	25	0,61	0.50	Valid
12	0,71	0.50	Valid	26	0,57	0.50	Valid
13	0,68	0.50	Valid	27	0,62	0.50	Valid
14	0,64	0.50	Valid	28	0,55	0.50	Valid

From the table above, the test items were valid. Because of the items were valid, the researcher used the questionnaire to be examined to the sample of the research

b. Reliability of The Questionnaire

Table III. 9

Case Processing Summary

		N	%
Cases	Valid	32	100,0
	Excluded[a]	0	,0
	Total	32	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,741	29

G. The Technique of Data Analysis

For the technique of analyzing the data, the researcher applied a quantitative data. In quantitative data analysis, Creswell (2012, p. 15) indicates that to analyze the data using mathematical procedures, called statistics to explain the result of the research. Therefore, to analyze the data the following formula used:

1. The formula to analyze the data of students' self Regulation

$M = \frac{TS}{N}$ Where: M = Mean

TS = Total Score

N = Number of Sample

2. The formula to analyze the data of students' reading comprehension

$M = \frac{TS}{N}$ Where: M = Mean

TS = Total Score

N = Number of Sample

3. The profile to analyze the data of both students' self regulation and students' reading comprehension

In order to analyze the data, the researcher used Pearson Product Moment Correlation on SPSS 21 windows program. The researcher used the product moment correlation to determine and to find out the linear relationship between two parametric variables. Siregar (2013, p. 261) indicated Ho is accepted if the significance 2-tailed value is bigger than α (sig-t > α). In this case, α value is 0.05.

Statistically the hypotheses are:

Ho is accepted if sig-t > α : there is no significant correlation between students' self regulation and their reading comprehension.

Ha is accepted if sig-t < α : there is a significant correlation between students' self regulation and their reading comprehension.

Then, to determine the level of correlation between two variables, the following category is use Sugiyono (2014, p. 184).

Table III.10

The Interpretation of Correlation Coefficient

No	Coefficient Interval	Level of Correlation
1	0.00 to 0.199	Very Low
2	0.20 to 0.399	Low
3	0.40 to 0.599	Medium
4	0.60 to 0.799	Strong

5	0.80 to 1.00	Very Strong